



IFWO

RAW SEQUENCE LISTING

DATE: 09/14/2004

PATENT APPLICATION: US/10/625,821A

TIME: 10:07:22

Input Set : A:\55022div.app

Output Set: N:\CRF4\09142004\J625821A.raw

3 <110> APPLICANT: MORI, SATOSHI
 4 NAKANISHI, HIROMI
 5 OKI, HIROYUKI
 6 YAMAGUCHI, HIROTAKA
 8 <120> TITLE OF INVENTION: METHOD FOR TRANSFORMING PLANT, THE RESULTANT PLANT AND
 9 GENE THEREOF
 11 <130> FILE REFERENCE: 55022-DIV (71526)
 13 <140> CURRENT APPLICATION NUMBER: 10/625,821A
 14 <141> CURRENT FILING DATE: 2003-07-22
 16 <150> PRIOR APPLICATION NUMBER: 09/646,825
 17 <151> PRIOR FILING DATE: 2000-09-22
 19 <150> PRIOR APPLICATION NUMBER: JP/10-96637
 20 <151> PRIOR FILING DATE: 1998-03-24
 22 <160> NUMBER OF SEQ ID NOS: 38
 24 <170> SOFTWARE: PatentIn Ver. 2.1
 26 <210> SEQ ID NO: 1
 27 <211> LENGTH: 2092
 28 <212> TYPE: DNA
 29 <213> ORGANISM: Artificial Sequence
 31 <220> FEATURE:
 32 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 33 saccharomyces cerevisiae
 35 <220> FEATURE:
 36 <221> NAME/KEY: CDS
 37 <222> LOCATION: (20)..(2077)
 39 <400> SEQUENCE: 1
 40 gaattctcta gactccacc atg gtt aga acc aga gtc ctt ttc tgc ctc ttc 52
 41 Met Val Arg Thr Arg Val Leu Phe Cys Leu Phe
 42 1 5 10
 44 atc tct ttc ttc gct aca gtc caa tcg agc gct aca ctc atc tcc act 100
 45 Ile Ser Phe Phe Ala Thr Val Gln Ser Ser Ala Thr Leu Ile Ser Thr
 46 15 20 25
 48 tca tgc att tct cag gct gca ctg tac cag ttc gga tgc tca agc aag 148
 49 Ser Cys Ile Ser Gln Ala Ala Leu Tyr Gln Phe Gly Cys Ser Ser Lys
 50 30 35 40
 52 tca aag tct tgc tac tgc aag aac atc aat tgg ctc gga agc gtc act 196
 53 Ser Lys Ser Cys Tyr Cys Lys Asn Ile Asn Trp Leu Gly Ser Val Thr
 54 45 50 55
 56 gca tgc gct tat gag aac tcc aaa tct aac aag act ctg gac tcc gct 244
 57 Ala Cys Ala Tyr Glu Asn Ser Lys Ser Asn Lys Thr Leu Asp Ser Ala
 58 60 65 70 75
 60 ttg atg aaa ctt gcc agc caa tgc tca agt atc aag gtt tac aca ctg 292
 61 Leu Met Lys Leu Ala Ser Gln Cys Ser Ser Ile Lys Val Tyr Thr Leu

ENTERED

RAW SEQUENCE LISTING

DATE: 09/14/2004

PATENT APPLICATION: US/10/625,821A

TIME: 10:07:22

Input Set : A:\55022div.app

Output Set: N:\CRF4\09142004\J625821A.raw

62	80	85	90	
64	gag gac atg aag aac atc tac ctt aat gca agt aac tac ctt cgc gct	340		
65	Glu Asp Met Lys Asn Ile Tyr Leu Asn Ala Ser Asn Tyr Leu Arg Ala			
66	95 100 105			
68	cct gag aaa tcc gat aag aag aca gtt gtt tca caa ccg ttg atg gca	388		
69	Pro Glu Lys Ser Asp Lys Lys Thr Val Val Ser Gln Pro Leu Met Ala			
70	110 115 120			
72	aat gag acg gcc tat cac tac tac tat gag gaa aac tat ggg atc cac	436		
73	Asn Glu Thr Ala Tyr His Tyr Tyr Tyr Glu Glu Asn Tyr Gly Ile His			
74	125 130 135			
76	ttg aat ttg atg cga tct caa tgg tgc gca tgg ggc ctc gtc ttc ttc	484		
77	Leu Asn Leu Met Arg Ser Gln Trp Cys Ala Trp Gly Leu Val Phe Phe			
78	140 145 150 155			
80	tgg gtc gca gtc ctt acc gcc gca act atc ttg aac att ctc aaa cgc	532		
81	Trp Val Ala Val Leu Thr Ala Ala Thr Ile Leu Asn Ile Leu Lys Arg			
82	160 165 170			
84	gta ttc ggc aag aac att atg gca aat tct gtt aag aag tct ctt atc	580		
85	Val Phe Gly Lys Asn Ile Met Ala Asn Ser Val Lys Lys Ser Leu Ile			
86	175 180 185			
88	tac cca agc gtt tac aaa gac tac aac gag aga act ttc tat ctt tgg	628		
89	Tyr Pro Ser Val Tyr Lys Asp Tyr Asn Glu Arg Thr Phe Tyr Leu Trp			
90	190 195 200			
92	aaa cgt ttg cca ttc aac ttt aca act cga ggc aaa gga ctc gta gtt	676		
93	Lys Arg Leu Pro Phe Asn Phe Thr Thr Arg Gly Lys Gly Leu Val Val			
94	205 210 215			
96	ctt atc ttt gtc att ctg act att ctc tca ctc tct ttc gga cat aac	724		
97	Leu Ile Phe Val Ile Leu Thr Ile Leu Ser Leu Ser Phe Gly His Asn			
98	220 225 230 235			
100	atc aag ttg cca cat cct tac gat aga cct aga tgg aga aga tca atg	772		
101	Ile Lys Leu Pro His Pro Tyr Asp Arg Pro Arg Trp Arg Arg Ser Met			
102	240 245 250			
104	gca ttc gtc tca cgc cgt gct gac ttg atg gca atc gct ctt ttc ccc	820		
105	Ala Phe Val Ser Arg Arg Ala Asp Leu Met Ala Ile Ala Leu Phe Pro			
106	255 260 265			
108	gtg gtg tac ctt ttc ggt atc cgg aac aac ccc ttc atc cca atc acc	868		
109	Val Val Tyr Leu Phe Gly Ile Arg Asn Asn Pro Phe Ile Pro Ile Thr			
110	270 275 280			
112	gga ttg agc ttt agt act ttc aac ttt tac cac aaa tgg tca gca tac	916		
113	Gly Leu Ser Phe Ser Thr Phe Asn Phe Tyr His Lys Trp Ser Ala Tyr			
114	285 290 295			
116	gtc tgc ttc atg tta gcc gtc gtc cat tca atc gtt atg acc gct tca	964		
117	Val Cys Phe Met Leu Ala Val Val His Ser Ile Val Met Thr Ala Ser			
118	300 305 310 315			
120	gga gtt aaa cga gga gta ttc cag tct ctt gta agg aaa ttc tac ttc	1012		
121	Gly Val Lys Arg Gly Val Phe Gln Ser Leu Val Arg Lys Phe Tyr Phe			
122	320 325 330			
124	aga tgg gga ata gta gcc aca att ctt atg tcc atc atc att ttc cag	1060		
125	Arg Trp Gly Ile Val Ala Thr Ile Leu Met Ser Ile Ile Ile Phe Gln			
126	335 340 345			

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/625,821A

DATE: 09/14/2004

TIME: 10:07:22

Input Set : A:\55022div.app

Output Set: N:\CRF4\09142004\J625821A.raw

128	tcc	gag	aag	gtc	ttc	agg	aac	cga	ggt	tat	gaa	atc	ttc	tta	ctt	att	1108
129	Ser	Glu	Lys	Val	Phe	Arg	Asn	Arg	Gly	Tyr	Glu	Ile	Phe	Leu	Leu	Ile	
130			350					355					360				
132	cac	aaa	gcc	atg	aac	atc	atg	ttt	atc	ata	gct	atg	tat	tac	cat	tgc	1156
133	His	Lys	Ala	Met	Asn	Ile	Met	Phe	Ile	Ile	Ala	Met	Tyr	Tyr	His	Cys	
134		365					370					375					
136	cac	aca	cta	gga	tgg	atg	ggc	tgg	atc	tgg	tcc	atg	gct	ggc	atc	ctc	1204
137	His	Thr	Leu	Gly	Trp	Met	Gly	Trp	Ile	Trp	Ser	Met	Ala	Gly	Ile	Leu	
138	380					385					390					395	
140	tgc	ttc	gac	agg	ttc	tgc	cga	att	gta	cgt	atc	atc	atg	aac	gga	ggt	1252
141	Cys	Phe	Asp	Arg	Phe	Cys	Arg	Ile	Val	Arg	Ile	Ile	Met	Asn	Gly	Gly	
142				400					405					410			
144	ctt	aag	acc	gcc	act	ttg	tgc	acc	aca	gat	gat	tct	aac	ggt	atc	aag	1300
145	Leu	Lys	Thr	Ala	Thr	Leu	Ser	Thr	Thr	Asp	Asp	Ser	Asn	Val	Ile	Lys	
146			415						420					425			
148	atc	tct	gtc	aag	aag	cct	aag	ttc	ttc	aag	tat	caa	gtg	gga	gca	ttt	1348
149	Ile	Ser	Val	Lys	Lys	Pro	Lys	Phe	Phe	Lys	Tyr	Gln	Val	Gly	Ala	Phe	
150			430					435					440				
152	gcc	tat	atg	tac	ttt	ctt	tca	cca	aaa	tca	gcc	tgg	ttc	tac	agt	ttt	1396
153	Ala	Tyr	Met	Tyr	Phe	Leu	Ser	Pro	Lys	Ser	Ala	Trp	Phe	Tyr	Ser	Phe	
154		445					450					455					
156	caa	tct	cat	ccc	ttc	aca	gtc	cta	tca	gaa	agg	cac	aga	gat	cct	aac	1444
157	Gln	Ser	His	Pro	Phe	Thr	Val	Leu	Ser	Glu	Arg	His	Arg	Asp	Pro	Asn	
158	460					465				470					475		
160	aac	cca	gat	caa	cta	act	atg	tac	gtc	aaa	gct	aac	aag	ggc	att	acg	1492
161	Asn	Pro	Asp	Gln	Leu	Thr	Met	Tyr	Val	Lys	Ala	Asn	Lys	Gly	Ile	Thr	
162				480					485					490			
164	aga	gta	ctt	ctt	agc	aaa	ggt	cta	agc	gct	cca	aac	cat	acc	ggt	gat	1540
165	Arg	Val	Leu	Leu	Ser	Lys	Val	Leu	Ser	Ala	Pro	Asn	His	Thr	Val	Asp	
166			495						500				505				
168	tgc	aag	att	ttc	tta	gag	gga	cca	tat	ggc	gta	act	gtc	cct	cac	att	1588
169	Cys	Lys	Ile	Phe	Leu	Glu	Gly	Pro	Tyr	Gly	Val	Thr	Val	Pro	His	Ile	
170			510					515					520				
172	gcc	aaa	ctt	aag	aga	aat	cta	gta	gga	gta	gct	gcg	ggc	ctc	ggc	gtg	1636
173	Ala	Lys	Leu	Lys	Arg	Asn	Leu	Val	Gly	Val	Ala	Ala	Gly	Leu	Gly	Val	
174		525					530					535					
176	gca	gcc	atc	tac	ccc	cat	ttc	gta	gaa	tgc	ctt	aga	ttg	cct	agc	act	1684
177	Ala	Ala	Ile	Tyr	Pro	His	Phe	Val	Glu	Cys	Leu	Arg	Leu	Pro	Ser	Thr	
178	540					545				550					555		
180	gat	caa	ctg	cag	cac	aag	ttc	tac	tgg	atc	gtc	aac	gac	ctt	agt	cac	1732
181	Asp	Gln	Leu	Gln	His	Lys	Phe	Tyr	Trp	Ile	Val	Asn	Asp	Leu	Ser	His	
182				560					565					570			
184	ctt	aag	tgg	ttc	gaa	aac	gag	cta	caa	tgg	ctt	aag	gag	aaa	tct	tgt	1780
185	Leu	Lys	Trp	Phe	Glu	Asn	Glu	Leu	Gln	Trp	Leu	Lys	Glu	Lys	Ser	Cys	
186			575					580					585				
188	gaa	gtc	tct	gtc	atc	tac	act	ggg	tca	tca	gtg	gag	gat	aca	aac	tca	1828
189	Glu	Val	Ser	Val	Ile	Tyr	Thr	Gly	Ser	Ser	Val	Glu	Asp	Thr	Asn	Ser	
190			590					595					600				
192	gat	gag	tcc	act	aag	ggt	ttc	gat	gac	aag	gaa	gaa	tct	gaa	atc	acc	1876

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/625,821A

DATE: 09/14/2004

TIME: 10:07:22

Input Set : A:\55022div.app

Output Set: N:\CRF4\09142004\J625821A.raw

```

193 Asp Glu Ser Thr Lys Gly Phe Asp Asp Lys Glu Glu Ser Glu Ile Thr
194      605                      610                      615
196 gta gaa tgc ctt aac aag agg cca gac ctc aaa gag cta gtg aga tca      1924
197 Val Glu Cys Leu Asn Lys Arg Pro Asp Leu Lys Glu Leu Val Arg Ser
198 620                      625                      630                      635
200 gag atc aaa ttg tca gaa ctc gag aac aac aac atc act ttc tac tca      1972
201 Glu Ile Lys Leu Ser Glu Leu Glu Asn Asn Asn Ile Thr Phe Tyr Ser
202                      640                      645                      650
204 tgc gga cca gcg act ttc aat gac gac ttt agg aat gca gtt gta caa      2020
205 Cys Gly Pro Ala Thr Phe Asn Asp Asp Phe Arg Asn Ala Val Val Gln
206                      655                      660                      665
208 ggt atc gat tct agt ctg aag ata gat gtc gaa cta gag gag gag agt      2068
209 Gly Ile Asp Ser Ser Leu Lys Ile Asp Val Glu Leu Glu Glu Glu Ser
210                      670                      675                      680
212 ttt act tgg taagagctca agctt      2092
213 Phe Thr Trp
214      685
217 <210> SEQ ID NO: 2
218 <211> LENGTH: 686
219 <212> TYPE: PRT
220 <213> ORGANISM: Artificial Sequence
222 <220> FEATURE:
223 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
224      saccharomyces cerevisiae
226 <400> SEQUENCE: 2
227 Met Val Arg Thr Arg Val Leu Phe Cys Leu Phe Ile Ser Phe Phe Ala
228 1                      5                      10                      15
230 Thr Val Gln Ser Ser Ala Thr Leu Ile Ser Thr Ser Cys Ile Ser Gln
231      20                      25                      30
233 Ala Ala Leu Tyr Gln Phe Gly Cys Ser Ser Lys Ser Lys Ser Cys Tyr
234      35                      40                      45
236 Cys Lys Asn Ile Asn Trp Leu Gly Ser Val Thr Ala Cys Ala Tyr Glu
237      50                      55                      60
239 Asn Ser Lys Ser Asn Lys Thr Leu Asp Ser Ala Leu Met Lys Leu Ala
240 65                      70                      75                      80
242 Ser Gln Cys Ser Ser Ile Lys Val Tyr Thr Leu Glu Asp Met Lys Asn
243      85                      90                      95
245 Ile Tyr Leu Asn Ala Ser Asn Tyr Leu Arg Ala Pro Glu Lys Ser Asp
246      100                      105                      110
248 Lys Lys Thr Val Val Ser Gln Pro Leu Met Ala Asn Glu Thr Ala Tyr
249      115                      120                      125
251 His Tyr Tyr Tyr Glu Glu Asn Tyr Gly Ile His Leu Asn Leu Met Arg
252      130                      135                      140
254 Ser Gln Trp Cys Ala Trp Gly Leu Val Phe Phe Trp Val Ala Val Leu
255 145                      150                      155                      160
257 Thr Ala Ala Thr Ile Leu Asn Ile Leu Lys Arg Val Phe Gly Lys Asn
258      165                      170                      175
260 Ile Met Ala Asn Ser Val Lys Lys Ser Leu Ile Tyr Pro Ser Val Tyr
261      180                      185                      190

```

RAW SEQUENCE LISTING

DATE: 09/14/2004

PATENT APPLICATION: US/10/625,821A

TIME: 10:07:22

Input Set : A:\55022div.app

Output Set: N:\CRF4\09142004\J625821A.raw

```

263 Lys Asp Tyr Asn Glu Arg Thr Phe Tyr Leu Trp Lys Arg Leu Pro Phe
264      195      200      205
266 Asn Phe Thr Thr Arg Gly Lys Gly Leu Val Val Leu Ile Phe Val Ile
267      210      215      220
269 Leu Thr Ile Leu Ser Leu Ser Phe Gly His Asn Ile Lys Leu Pro His
270 225      230      235      240
272 Pro Tyr Asp Arg Pro Arg Trp Arg Arg Ser Met Ala Phe Val Ser Arg
273      245      250      255
275 Arg Ala Asp Leu Met Ala Ile Ala Leu Phe Pro Val Val Tyr Leu Phe
276      260      265      270
278 Gly Ile Arg Asn Asn Pro Phe Ile Pro Ile Thr Gly Leu Ser Phe Ser
279      275      280      285
281 Thr Phe Asn Phe Tyr His Lys Trp Ser Ala Tyr Val Cys Phe Met Leu
282      290      295      300
284 Ala Val Val His Ser Ile Val Met Thr Ala Ser Gly Val Lys Arg Gly
285 305      310      315      320
287 Val Phe Gln Ser Leu Val Arg Lys Phe Tyr Phe Arg Trp Gly Ile Val
288      325      330      335
290 Ala Thr Ile Leu Met Ser Ile Ile Ile Phe Gln Ser Glu Lys Val Phe
291      340      345      350
293 Arg Asn Arg Gly Tyr Glu Ile Phe Leu Leu Ile His Lys Ala Met Asn
294      355      360      365
296 Ile Met Phe Ile Ile Ala Met Tyr Tyr His Cys His Thr Leu Gly Trp
297      370      375      380
299 Met Gly Trp Ile Trp Ser Met Ala Gly Ile Leu Cys Phe Asp Arg Phe
300 385      390      395      400
302 Cys Arg Ile Val Arg Ile Ile Met Asn Gly Gly Leu Lys Thr Ala Thr
303      405      410      415
305 Leu Ser Thr Thr Asp Asp Ser Asn Val Ile Lys Ile Ser Val Lys Lys
306      420      425      430
308 Pro Lys Phe Phe Lys Tyr Gln Val Gly Ala Phe Ala Tyr Met Tyr Phe
309      435      440      445
311 Leu Ser Pro Lys Ser Ala Trp Phe Tyr Ser Phe Gln Ser His Pro Phe
312      450      455      460
314 Thr Val Leu Ser Glu Arg His Arg Asp Pro Asn Asn Pro Asp Gln Leu
315 465      470      475      480
317 Thr Met Tyr Val Lys Ala Asn Lys Gly Ile Thr Arg Val Leu Leu Ser
318      485      490      495
320 Lys Val Leu Ser Ala Pro Asn His Thr Val Asp Cys Lys Ile Phe Leu
321      500      505      510
323 Glu Gly Pro Tyr Gly Val Thr Val Pro His Ile Ala Lys Leu Lys Arg
324      515      520      525
326 Asn Leu Val Gly Val Ala Ala Gly Leu Gly Val Ala Ala Ile Tyr Pro
327      530      535      540
329 His Phe Val Glu Cys Leu Arg Leu Pro Ser Thr Asp Gln Leu Gln His
330 545      550      555      560
332 Lys Phe Tyr Trp Ile Val Asn Asp Leu Ser His Leu Lys Trp Phe Glu
333      565      570      575
335 Asn Glu Leu Gln Trp Leu Lys Glu Lys Ser Cys Glu Val Ser Val Ile

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/625,821A

DATE: 09/14/2004

TIME: 10:07:23

Input Set : A:\55022div.app

Output Set: N:\CRF4\09142004\J625821A.raw